

A NOTE ON *POLYPORUS TUMULOSUS* COOKE & MASSEE (FUNGI)

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Polyporus tumulosus Cooke & Massee is a widely distributed polypore in Australia, having been found in Western Australia, South Australia, New South Wales, Queensland and Tasmania. It is recognised by its centrally stipitate, squat, terrestrial fruitbodies, which arise from a false underground sclerotium (pseudosclerotium). The convex cap, 6-14 cm diam., is often slightly depressed at the centre, and of a whitish colour becoming grey or greyish-brown, with a thin pellicle. The stocky stem, 1-6 cm high, 1.5-4.0 cm wide, originates from a false sclerotium of soil particles or sand grains bound together by the fungal mycelium. The pores, 3-5 per mm, are whitish; the flesh, very soft and cottony, is also whitish and of very light weight.

Fruitbodies appear after fire has swept through forest areas and following subsequent rain. Growth is extremely rapid and Cleland (1935) records their appearance within a fortnight of burning. They may occur singly or as scattered specimens over a few square metres.

An interesting observation on the pseudosclerotium of this fungus was made on a collection in burnt Karri-Red Tingle (*Eucalyptus diversicolor*/*E. jacksonii*) forest near Walpole, Western Australia. In this instance about 20 fruitbodies were seen in an area of about 3 metres square. After careful excavation by one of us (D.G.R.) to a depth of approximately half metre, it was found that instead of the expected globular pseudosclerotium there was a complicated branched arrangement reminiscent of a root system. However, owing to the effort and time which would have been needed to effect a complete excavation, only a portion of the system was uncovered, but it seems highly probable that it extended over the entire area where fruitbodies were in evidence. The pseudosclerotial material is



Fig. 1.—A group of six fruit bodies of *P. tumulosus* at Walpole, excavated to show their common origin from a large branching pseudosclerotium.

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extremely heavy—a small portion 12 x 7 x 6 cm weighed 450 grams when completely dry.

The microstructure of *P. tumulosus* is dimitic, consisting of scanty, thin-walled, hyaline generative hyphae, 3.0-4.5 μ m wide, with clamp-connections and very abundant skeletal hyphae up to 5.5 μ m wide, which taper at either end to about 2 μ m. The skeletal hyphae, which are highly refractive in both KOH and Melzer's solution, are only occasionally branched. The spores, 7.0-11.0 x 3.0-3.5 μ m (measured from a spore-print of a specimen collected by T. D. Macfarlane (No 113), north-west of Pemberton, Western Australia, May 17, 1975) are thin-walled, hyaline and narrowly elliptic to subcylindric.



Fig. 2.—Spores of *Polyporus tumulosus*. x 666.

Cunningham (1965) described the hyphal structure differently. He indicated that the flesh was formed of densely intertwined hyphae, and interpreted the thick-walled refractive hyphae as freely branched binding hyphae. No evidence for such an interpretation was found in any of the specimens examined. Indeed a remarkable feature of the tissue of the cap is that when placed in 10% KOH it dissociates very readily on wetting and scarcely any dissection is necessary to distinguish individual hyphae.

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SOME OBSERVATIONS ON THE BEHAVIOUR OF THE RED-AND-BLACK SPIDER, *NICODAMUS BICOLOR* (THERIDIIDAE)

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The following account records observations made between June 15, 1976 and August 24, 1977, on the web, food, mating behaviour, egg-laying and time of development of captive individuals of the Red-and-Black Spider, *Nicodamus bicolor*. Five specimens were collected at Gidgieganup in the Avon Valley on June 15, 1976. They were found under flakes of rock on an outcrop beside a stream. Only a female survived after having eaten the other four. On August 7 a male and female were collected from the same site. These three were kept together in a glass terrarium (30 x 15 x 22 cm) with a glass divider leaning against one end. By mid-August one of the females had been eaten, leaving a pair, the subject of this article.

Appearance of the spiders: They are small. At maturity the body length of both sexes is 12 mm. The legs of the female are 16 mm and of the male 22 mm. They are red with a black tarsus. The abdomen is globular, black, hairy and glossy. The spinnerets and anal tubercle and the immediate area around them are red, and situated at the extreme tip of the